

CLAIMS

1. A multi-column chromatography separation process producing at least two fractions, comprising the following steps, at the outlet from the extract zone, zone I, or raffinate zone, zone III:
 - (i) at least a part of the outlet flow rate from said zone is drawn off;
 - (ii) said part is concentrated; and
 - (iii) the concentrated part is at least partially reinjected.
2. The process according to claim 1, in which the totality of the outlet flow rate from said zone is drawn off.
3. The process according to claim 1 or 2, in which the concentrated part is partially reinjected.
4. The process according to claim 3, in which between 50 and 99.5 % of the concentrated part, preferably between 70 and 98%, is reinjected.
5. The process according to claim 1 or 2, in which the concentrated part is totally reinjected.
6. The process according to one of Claims 1-5, in which a concentration factor F is comprised between 1.1 and 10, preferably between 1.25 and 5.
7. The process according to one of Claims 1-6, in which drawing-off is performed downstream of the extract zone, zone I.
8. The process according to one of Claims 1-7, characterised in that the chromatography separation is of the SMB type.

9. The process according to one of Claims 1-7, characterised in that the chromatography separation is of the Varicol type.

5 10. Chromatography apparatus comprising:

- i. a plurality of separation columns;
- ii. a drawing-off point at the outlet from said columns for drawing off at least a part of the outlet flow rate from a column;
- 10 iii. a device for concentrating said part;
- iv. a reinjection point immediately after the drawing-off point for reinjecting at least partially the concentrated part.

15 11. The apparatus according to claim 10, comprising a valve between the drawing-off and reinjection points.

12. The apparatus according to claim 10 or 11, comprising partial collection of the concentrated part.

20 13. The apparatus according to one of claims 10-12, in which the concentration device is an evaporator.

25 14. The apparatus according to one of claims 10-13, characterised in that the plurality of separation columns is of the SMB type.

30 15. The apparatus according to one of claims 10-13, characterised in that the plurality of separation columns is of the Varicol type.

35 16. The apparatus according to one of claims 10-15, for carrying out the process according to one of claims 1-9.